DOCUMENT RESUME

ED 267 949 RC 015 675

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TITLE Rural Industrialization and Poverty in the South, 1973 to 1983.
PUB DATE Aug 85
NOTE 36p.; Paper presented at the Annual Meeting of the Rural Sociological Society (48th, Blacksburg, VA, August 21-24, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Blacks; Economic Change; *Economic Factors; Educational Attainment; *High School Graduates; *Industrialization; Local Norms; Low Income Counties; Population Trends; *Poverty; Poverty Areas; *Racial Factors; Rural Development; *Rural Economics; Social Theories; Trend Analysis; Whites
IDENTIFIERS Counties; *United States (South)

ABSTRACT

A study of 149 nonmetropolitan Southern counties used data for 1973 and 1983 to examine the effects of rural industrialization in the region. Variables studied were population size, number of manufacturers, rate of family poverty, and percent of high school graduates. A comparison of white (75% or more whites in the population) and nonwhite (more than 25% nonwhite in the population) counties showed that nonwhite counties continue to lag behind white counties in the South. Data showed that absolute gains in industrialization (number of manufacturing establishments) and measures of income were greater in the white counties. However, the decline in the poverty rate and the increase in percentage of high school graduates were significantly greater in nonwhite counties. The rate of population growth and the original level of poverty in 1983 were the two significant factors influencing change in the rate of poverty over the decade. Industrialization had little or no effect on the reduction of poverty during this period. The study findings raise questions concerning many theories of economic change. For example, contrary to predictions of modernization theory, the study points to continuing racial differences in the "New South" with past racial discrimination continuing to influence the social structure. (JHZ)

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RURAL INDUSTRIALIZATION AND POVERTY IN THE SOUTH, 1973 TO 1983

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RC015675

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ABSTRACT

Concern with the consequences of uneven development among regions has increased in recent years. Among the problems created by uneven development are persistent poverty and high levels of unemployment and underemployment. Industrialization of underdeveloped regions has often been viewed as the solution to these problems. However, some evidence suggests that industry may be avoiding the predominately black areas in the South. Furthermore, studies of newly industrialized regions indicate that not all groups benefit equally. This analysis, using county-level data, examines whether nonwhite counties in the South have industrialized at the same rate as white counties over the past decade. Second, we examine the effects of rural industrialization on family poverty in these counties. The findings indicate that predominately nonwhite counties continue to lag behind white counties in the South. Also, industrialization has had little or no effect on the reduction of poverty during this period.

RURAL INDUSTRIALIZATION AND POVERTY IN THE SOUTH, 1973 TO 1983

Introduction

Industrial shifts have a long history of optimism and promises of social good. Industrialization, for example, was seen as so superior to agricultural-based economies that the word was used interchangeably with modernization and development. It became the standard prescription to cure the ills of the Third World and underdeveloped regions. Within the United States, the industrialized North stood in contrast with the less developed, agricultural areas of the South (Hirschman and Blankenship, 1981). In the 1970s, these regions showed signs of an industrial shift. The North experienced industrial decline, and some of its areas (particularly New England) began the switch to "post-industrialism" and "high tech" (Harrison, 1984); the South attracted more of the runaway shops from the North, and manufacturing establishments were begun in nonmetropolitan areas across the nation. It was assumed that these developments would reduce the regional differences between the North and South, as well as the inequalities within the South. The stark poverty of the rural South and the distinctly racial nature of inequality, maintained by the agricultural division of labor, would be eased by the new industrialization. However belatedly, the South would come to resemble the industrialized North, and the effect of mass society would be to reduce the rural-urban distinctions.

The application of macro-level theories of development to lower levels of analysis has come primarily in studies of intra-national regional change. Urban areas have been contrasted with rural (Vidich and Bensman, 1968), and the southern U.S. has been compared to the non-South (Fox, 1978; Hirschman and Blankenship, 1981). There has been, however, relatively little attention to

the disparities within regions. Singelmann (1981) argues that it is no longer relevant to study regional differentiation because differentiation within one region is as great as that between regions. In this paper we seek to apply three broad theoretical approaches from the development literature to a study of southern nonmetropolitan counties. From each approach, we derive specific propositions concerning the nature and consequences of rural industrialization in the South.

By focusing on counties within the nonmetropolitan South we hope to reveal the uneven nature of industrial development which is often concealed by studies which compare the North and the South. We are concerned with the extent of industrialization and its effect on poverty rates. The nonmetropolitan poverty rate in the South is higher than in the rest of the U.S.; 18% of nonmetropolitan families in the South were poor compared to 12% in the non-South. The burden of poverty in this region falls especially heavy upon blacks; the poverty rate for black families in the nonmetropolitan South was 35% in 1980. Racial composition also appears to be related to the location decisions of large corporations (Schneider, 1984; Squires, 1984; Walker, 1977). Accordingly, we will be particularly concerned with the levels and effects of industrialization in white and nonwhite counties.

Theoretical Issues - Diffusion, Dualism and Dialectics of Economic Change

There are several broad theoretical interpretations of economic/ industrial development which can be applied on the regional level. The first we shall term broadly the diffusion model, since the underlying assumption is that the benefits of industrialization gradually diffuse throughout the society. Another contending view in social science we will call the dualism model. This view holds that industrial change does not produce even, diffuse social change, but instead, that change proceeds unevenly, creating or

perpetuating the separate structures within society. Included in our conceptualization of dualism are models of internal colonialism and dependency. Finally, we discuss a dialectical view of economic development and regional change which argues for a historical analysis of class power and strategy. In each case we suggest the particular hypotheses such views would develop for a study of industrialization in the nonmetropolitan South. We must stress that we are focusing these theories on intraregional development. In a way, we are continuing a tradition of narrowing the focus of developmental analysis--from comparing nations to comparing regions within a nation to comparing areas within a region.[1] We draw from the strengths of the dualism and dialectical views to propose our own hypotheses of the extent and consequences of southern rural industrialization.

Diffusion

Based on what is generally termed modernization theory, the diffusion model encompasses a variety of assumptions about the causes and consequences of economic and social change. Development or modernization is primarily viewed as technological in nature, based in a shift from animate to inanimate forms of energy used in production. The efficiency achieved from these forms of production allows greater specialization of tasks and an increased division of labor. In an economic sense, the process of development is occurring when growth becomes self-sustaining (Rostow, 1960). This process of technological change, industrial and occupational specialization, and economic growth builds in a context of political and social equality and contributes to greater equality. Culturally, regional and ethnic differences which had been sustained by the economic isolation of groups within the society begin to disappear. The benefits of the industrialization process eventually reach all groups and regions.

The diffusion of benefits throughout the modern society was to have several concrete social consequences, including a converging class structure and an end to racial and ethnic disparities (Blumberg, 1980). The rationality necessary for modern societies to grow could not allow talent to be wasted for the sake of prejudice. In the development of the skilled labor force needed to cope with the technologically advanced machines, employers would be rewarding talent according to its worth. The result would be a large "middle" class composed of skilled labor--of both white and blue collar varieties. Regional development would be based upon the availability of resources (land, labor, or capital), with differences between regions diminishing as technology and social advancements freed production from strict dependence on a particular area.

This admittedly simplified view of a complex and diverse approach to social change and inequality is intended only to expose the dominant assumptions inherent in the variety of works in this area. The diffusion model has been applied at the international, national, and regional levels.

An exemplar of the diffusion approach to rural poverty is Schultz's (1953) work examining income disparity among rural communities. Schultz has argued that differences in the level of living between communities are not due to original differences in the cultural values or capabilities of the people themselves. Instead, these differences are an inevitable product of the process of economic development. Economic development is more likely to occur in industrial-urban areas, and in those regions immediately surrounding these centers than in rural areas. Schultz (1953) contends that the existing economic organization in the "periphery" is less effective and efficient. Most classical economic explanations blame this lag on imperfect factor markets. In particular, the spatial lag is often based on price differentials

related primarily to transportation costs. Therefore, those communities closer to industrial-urban areas will experience industrial growth faster than those areas located further away. These spatial differences in economic growth will be reduced over time as technological developments and improvements in transportation reduce these costs (Rostow, 1977).

The diffusion model, therefore, would predict that differences among areas of the South in the rate of industrialization would inevitably be reduced over time. Moreover, it would predict a strong negative relationship between industrialization and poverty, with the importance of race becoming smaller.

Dualism

Although the term is somewhat misleading in its suggestion of only two structures, we use "dualism" to describe the body of literature with the common theme of dominant/subordinate rather than developed/undeveloped (Frank, 1967). The pattern of development of capitalist economies has variously been described in the literature as uneven, dependent, and imperialistic. The dominant region or economic sector imposes the conditions for development on the less powerful regions or sectors. Thus, the dominant sector prospers at the expense of the other.

Dualistic models of economic growth have their intellectual roots in Marxian analyses of imperialism and colonialism. The uneven development of world capitalism embodied in the extractive economic relations of colonialism and neocolonialism is reproduced on a smaller scale within the boundaries of the nation-state. Economic dependency and political domination characterize the relations of the center and periphery regions. The periphery economy becomes specialized and indigeneous sources of livelihood dwindle. Regional disparities are generated and reproduced by the mobility of capital, the

development of a labor reserve in the periphery and the transfer of value out of the region where it is created (Newby and Buttel, 1980). The long-term results are not the elimination of poverty but the exacerbation of it (Caudill, 1962) and the loss of local sources of control (Caudill, 1983).

Although there are several versions of the dependency models of development, the internal colonial models have particular appeal in discussions of unevenness within advanced capitalist societies. Studies of American blacks (Blauner, 1969) and other ethnic groups or minorities (Lamphere, 1976; Moore, 1970) emphasize the social and cultural nature of the boundaries of internal colonies, although geographic boundaries combine with sociocultural factors in analyses of the Appalachian region (Caudill, 1962; Lewis et al., 1978).

Proponents of the internal colonial model point to the external control of political and economic organizations as the major force in the pauperization of the periphery (Hechter, 1975). This model relies on two major factors in the generation of regional differences--absentee ownership of the means of production and external political control. The existing stratification system is maintained through a cultural division of labor that restricts access to positions of power on the basis of ethnicity or race. Thus, both regional and racial differences are maintained, despite industrial activity. In studies of the nonmetropolitan South, a dualistic model would lead to hypotheses of persistent differences in the rate of industrialization within the region and little or no relationship between industrialization and poverty.

Dialectical Approaches

Critical of both the diffusion and dualistic models, a small group of analysts have tended to view capitalist development as a dialectical process.

Unique historical forces such as class conflict (Fox, 1978) or political conflict (Markhusen, 1979; 1980) have resulted in uneven regional development. Spatial specialization occurs not because of the "logic of capitalism" but because of the obstacles which capitalists have encountered in their drive to expand. Different historical conditions have required different strategies by the capitalist class.

Fox (1978), for example, notes a decline in regional unevenness within the U.S. as monopoly capitalism has developed. Expansion in the era of monopoly capitalism, he argues, took the form of a "capital deepening strategy," (i.e., increased fixed capital per worker) quite different from the "capital widening strategy" of the competitive era in which a constant capital-to-worker ratio resulted in more jobs. Fox argues that the capital deepening strategy has reduced the regional dependence on resources and led to increased wages. According to Fox there has been no "development of underdevelopment" within the U.S. although "within regions the growth of metropolitan areas necessarily exacerbates the unevenness of development between the metropolitan and nonmetropolitan portions of the region" (1978:84).

The dialectical view holds that regional convergence or reversal is possible without the demise of capitalism or the internalization of political and economic decision making, as suggested by strict Marxian dependency and internal colonial views (Markhusen, 1980). Regional disparities change depending on the power of corporate capital and the working class. Convergence or reversal of regional inequalities is possible. Proponents of this view argue that the labor victories in the northern United States which increased the costs of production, combined with the deskilling of the production process, led capital to industrialize less developed regions within

the U.S. and abroad (Fox, 1978). The competitive pressures of international capitalism also contributed to this process.

According to this view, industrialization of the nonmetropolitan South is likely to reduce poverty and racial differences in the region as capital, constrained by the institutionalized power of the working class, exploits the vast army of reserve labor. The capitalist strategy to accumulate capital requires utilization of the surplus labor available in the South. However, the South is integrated into the larger capitalist state by federal laws mandating minimum wage levels and other protections for workers; this constrains the degree to which the capitalist class can exploit the reserve army of labor. Since the pursuit of profit drives the capitalist class, the expansion into the southern nonmetropolitan areas will incorporate whites and nonwhites, playing out racial divisions to prevent development of working class consciousness (Stillwell, 1978).

The position developed here suggests that uneven development is not an inevitable consequence of the logic of capitalist development, as the dualistic theorists would argue. However, it also would differ with the diffusion theorists over the nature and consequences of development. Development must be understood by focusing on the social and historical circumstances in which it occurs. By ignoring the consequences of previous exploitation of regions and of discrimination, diffusion theorists assume that these historical factors will no longer have an impact on the development of these regions. This issue is particularly important for the rural areas of the South which have lagged behind other regions of the country in terms of industrialization. Expectations of dialectical approaches that these areas will converge with the urban areas of the North and that inequality in the South will be reduced ignore the continuing impact of past racial

discrimination, particularly where it has been institutionalized. Without an infrastructure to support industrialization, it is unlikely that these areas will be able to attract new industries other than those which provide extremely low-paying jobs. The consequences of such low level development, although an absolute improvement in the sense of providing some with jobs who might have previously been unemployed, probably will not reduce the relative differences in regional economic well-being. Here we are incorporating into our model one of the strengths of the dualistic perspective, namely, the reminder that previous exploitation has a legacy. We would expect that the differences in the rates of industrialization between white and nonwhite counties would be smaller in 1983 than in 1973, but they will not be equal. The social and economic conditions which have existed historically in nonwhite counties of the nonmetropolitan South continue to provide differences in the infrastructure of communities which discourage high-paying firms from establishing in these areas. Thus, we expect that industrial development of the nonmetropolitan South will do little to reduce poverty in the region as a whole, but particularly in the nonwhite counties.

Previous work on nonmetropolitan industrialization, summarized by Summers et al. (1976), has suggested that disadvantaged groups have not benefited proportionately from the industrial "invasion" and that the benefits of industrialization for rural communities are often less than the costs. Rural industrialization does produce more jobs in the receiving communities, but there is some evidence that many of these jobs will go to people other than the natives (Nolan and Heffernan, 1974), especially low-income natives (Bender et al., 1971). Seyler (1979) found no appreciable effect of industrialization on household income in most nonmetropolitan counties of the West North Central region of the U.S., neither did industrial development affect the income gap

between weak and strong competitors in a nonmetropolitan area of Illinois (Summers and Clemente, 1976). In a study of the nonmetropolitan South, Till (1972) found that the benefits of industrialization differed for various groups. Through case studies of four regions, Till concluded that the poor did benefit from the establishment of manufacturing enterprises in their counties. However, the black poor did not gain as much as the white poor.

Methodology

A sample of nonmetropolitan counties located in the South was used in this analysis. The Bureau of the Census defines the South as including Delaware, Maryland, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas. However, Delaware and Maryland were dropped from this analysis because they did not have a sufficient number of nonmetropolitan counties. The sampling frame was drawn from a list of county groups in each of the southern states. A county group is a unit defined by the Bureau of the Census as a varying number of counties with a total population of more than 100,000 people. Only county groups which had no county in a Standard Metropolitan Statistical Area (SMSA) were included in the sampling frame.[2] This method yielded 188 county groups and a total of 1,057 counties. A stratified systematic sample of 20 county groups, with at least one county group from each state, was selected. This provided us with 149 counties in the sample. Cluster sampling often produces increased sampling error. However, cluster sampling procedures that study all the population elements in the sampled larger units have the same amount of sampling error as simple or stratified samples (Selltiz et al., 1976).

The data, with the exception of poverty rates, were obtained from the City and County Data Book for two time periods, 1973 and 1983. Poverty

figures were drawn from the Census of Population. It is important to point out that the unit of analysis is the county. The first part of the analysis compares white and nonwhite counties with respect to selected variables. White counties were defined as having 75 percent or more of their population consisting of whites. Conversely, nonwhite counties had more than 25 percent of their population consisting of nonwhites. The zero-ordered correlation coefficients were calculated using the full variance of the variable measuring the percentage of whites in the county.

The second part of the analysis compares the absolute and proportional changes in the selected variables. The absolute changes were calculated by the actual changes over the ten years. The proportional measure standardizes these changes by considering the original level of the variable. As a result, for those variables where there was a proportional increase, the value is positive and greater than one. On the other hand, for those measures with a decline over the decade (e.g., percentage of persons and families below poverty), the value is less than one. Thus, a strong positive relationship between the percentage of whites and the proportionate change in the families below the poverty level means that the greater the percentage of whites the smaller the proportionate decrease in poverty.

Finally, we regress the rate of family poverty[3] on the percent of the population that was white, the population size, the number of manufacturing establishments, and the percent of high school graduates in the county for the two time periods. We also examine how changes in the independent variables influenced the proportional change in the rate of poverty. Perry (1980) has argued that when examining change it is necessary to take into consideration the context in which that change is taking place. Therefore, our regression analysis also includes the original levels of variables (i.e., the population

size, the number of manufacturers, the rate of family poverty, and percent of high school graduates in 1973).

Analysis

Table 1 provides the descriptive statistics for the selected variables in the analysis for both 1973 and 1983. One point that must be considered when examining this time period is the rate of population growth in rural areas. For our sample of nonmetropolitan counties in the South, the median population growth over the previous decade increased from one half of one percent in the 1960s to almost fourteen percent in the 1970s. The relative effect of population growth must be considered when examining the poverty rate because an absolute increase in population may result in an automatic decline in the poverty rate even if the absolute number of families that are considered poor remains unchanged (Beck, 1977).

--Table 1 about here--

There are significant differences between white and nonwhite counties during both time periods, with respect to the measures of economic well-being; white counties have a larger percentage of high school graduates and a higher per capita and median family income than nonwhite counties. Nonwhite counties have higher individual and family poverty levels than white counties. There is a weak, negative relationship between the percentage of whites in the county and the number of manufacturing establishments in 1983; however, this relationship is insignificant in 1973.

Table 2 provides a description of the absolute changes in the selected variables between 1973 and 1983 for all the counties in the sample, and also for white and nonwhite counties. These data enable us to discern whether there were significant differences in the absolute rate of change for the

selected variables between nonwhite and white counties. The zero-ordered correlation coefficients of the absolute change with the total variation of the percentage of whites in the county are also presented.

--Table 2 about here--

Nonmetropolitan counties in the South, on an average, gained almost five manufacturing establishments and lost almost one percent in the number of jobs in manufacturing. One possible interpretation of this apparent contradiction would be that the average size of manufacturing establishments had declined over that period. Granovetter (1984), in a recent analysis of national data, provides support for this argument. Another possibility is that, although the actual number of jobs in manufacturing increased proportionately, the number of manufacturing jobs decreased because of a larger increase in the number of jobs in other sectors of the local economy.

There was also an increase in the per capita and median family income. From 1973 to 1983, there was a 15 percent increase in the proportion of high school graduates. Finally, there was a relatively large decline in the percent of individuals and families who were officially defined as poor.

Over the decade, white counties experienced a larger increase than nonwhite counties in the number of manufacturing establishments. The increase in median family income was also significantly higher in the white counties than the nonwhite counties. The mean increase for white counties was $7,200 and the mean increase for nonwhite counties was $6,600. On the other hand, nonwhite counties made larger gains than white counties in other areas over the decade. For example, nonwhite counties had a 16 percent increase in the number of high school graduates, while white counties had an average of about 14 percent. Nonwhite counties also experienced a steeper decline in the

percentage of persons and families below the poverty level than white counties. Nonwhite counties had an 11 percent decline in the percentage of persons and families below the poverty level; white counties had an average decline in the rate of poverty of about 7 percent. This is obviously an artifact of the higher rates of poverty in nonwhite counties in 1973, combined with population growth not significantly different than that of white counties.

The data on the proportional changes in the selected variables show that there are fewer significant differences in the measures of proportional change than absolute change (Table 3). Nonwhite counties have a significantly higher proportionate gain in the percentage of high school graduates than white counties. At the same time, nonwhite counties have a significantly steeper proportionate decline than white counties in the rate of poverty for both individuals and families.

--Table 3 about here--

To examine the factors which influenced the rate of family poverty during the two time periods, we regressed the poverty rate on the percentage of population that was white in the county, population size, the number of manufacturing establishments, and the percent of high school graduates in the county (Table 4). This analysis enables us to examine the effects of industrialization while controlling for three important variables--population size, race, and education. (See Appendix A for the correlations between the independent variables.)

--Table 4 about here--

The results of the regression analysis indicate that race has a

significant negative effect on the rate of poverty for both time periods; the higher the percentage of whites in the county, the lower the rate of poverty. The number of manufacturers has a significant impact for 1973 only. Population size was not a significant predictor of the poverty rate in either 1973 or 1983. The percentage of high school graduates was negatively related to the poverty rate during both periods. This relationship is reduced in 1983, suggesting that a high school diploma had become less important in the 1980s.

The final part of the analysis examines the factors contributing to the proportionate change in the rate of poverty from 1973 to 1983 (Table 5). Appendix B provides the correlations between the independent variables. The regression analysis indicated that the level of family poverty in 1973 is the strongest predictor of the proportionate change in the rate of family poverty. The higher the original rate of poverty in 1973, the greater the proportionate decrease in the rate of poverty. The proportionate change in population was also significantly related to the change in the rate of family poverty. The data show that a higher rate of population change produces a greater decline in the rate of family poverty. This regression analysis illustrated that the measures of industrialization and race were not good predictors of the proportionate decline in the family poverty rate.

--Table 5 about here--

Conclusions

Our analysis demonstrates that both white and nonwhite counties in the nonmetropolitan South made some important gains during the 1970s but that racial composition remains an important variable in the analysis of poverty. Consistent with recent data on the Black Belt, our data show that the absolute

gains in industrialization (the number of manufacturing establishments) and measures of income were greater in the white counties than nonwhite counties of the rural South. However, the decline in the poverty rate was much greater in the nonwhite counties than the white counties. When examining the proportionate change in these measures over the decade, we found that nonwhite counties had a significantly greater decline in the poverty rate and significantly larger increase in the percentage of high school graduates than white counties.

Regression analysis revealed that the number of manufacturing establishments did not have a significant influence on the poverty rate in 1983, but race and education were significant factors in both 1973 and 1983. Examining the factors influencing the changes in the rate of poverty over the decade, we found that the two significant factors were the rate of population growth and the original level of poverty in 1973. This analysis suggests that the historical context must be considered when examining regional inequality, but also suggests that demographic factors demand attention. The disadvantages of a low tax base and low stock of human capital persist through the community infrastructure and institutions and continue to play a role in the economic health of the population. Poverty continues to be a racial phenomenon and education plays less of a role in reducing poverty just as nonwhites close the educational gap, suggesting that employers evaluate "human capital" in ways which defy the explanations of diffusion theorists. The "cumulative disadvantage" position of the regional dualism theorists gains credence from this evidence.

The reduction of poverty was greater in nonwhite than white counties, but industrialization did not account for this change. As Beck (1977) has pointed out, reducing poverty can mean a variety of things. There may be fewer poor

people in absolute terms, there may be a decline in the average income deficit, or there may be fewer poor persons relative to the total population. Our measure of poverty examines the latter condition, which leaves some questions still unanswered. Namely, whether population growth is primarily the result of natural increase or immigration, and whether the poor have joined the ranks of the nonpoor through employment or through welfare programs of the state, such as social security. There is also a need to look at the character of population change and composition. In a study of poverty in nonmetropolitan areas of the Deep South, Walker (1977) found that at least one-third of the outmigrants would have been in poverty had they remained in the Deep South.

Our findings raise important questions concerning the "New South" because they point to the continuing racial differences in this region. This is contrary to the predictions of modernization theorists. It would appear that the effects of the "Old South" continue to temper the effects of industrialization in the "New South." Past racial discrimination continues to influence the social structure of the South, particularly where it has been institutionalized. Nonwhite counties of the South, particularly in the so-called "Black Belt," face several problems. First, these areas are unlikely to attract high-paying industries because of the low skills and lower educational attainment in these areas. Thus, the benefits of industrialization are less than those that may be derived from the creation of higher paying jobs. Moreover, industrialization may have little impact on the rate of poverty because the wages may be so low, or the work may be so unstable, that many of the workers still may be officially defined as poor. Finally, these industries that are based on low-skilled, low-paying jobs are the same industries that are moving overseas today. Thus, workers must

"compete" with Third World workers to keep their jobs.

Theoretically, we find evidence for the persistence of a "cultural division of labor" which has meant continued poverty and disadvantage for nonwhite counties in the nonmetropolitan South. Industrialization has not eliminated the disparities between white and nonwhite counties as diffusion theorists have led some to expect, but neither has the search for manipulable reserve armies of labor led to industrial invasion of the South in an even manner, as dialectical theorists might hypothesize. Although we do not examine the locus of ownership and control of industries, our findings are consistent with Persky's (1973) description of the South as a "favored colony," which has experienced substantial development in recent years. He argues that the rationalized activities of finance capitalism seek lower cost locations in the South, but that this external control does not always forestall "economic growth."

However, consistent with the attention played by dialectical theorists to class conflict outside of the workplace, we find a reduction in the rate of poverty greater in nonwhite than white counties. The important political victories of the poor people's movements may provide a partial explanation for the closing of this gap. However, we also find evidence that rapid population growth in areas with high poverty levels contributes significantly to the proportionate change in poverty of the counties. The impact of population change, as well as the types of industries gained and lost in the nonmetropolitan South (Averitt, 1979; Bloomquist and Summers, 1980), need to be assessed in future studies of economic change.

FOOTNOTES

[1]Obviously there is a definitional problem in our usage of terms like region and area. Unlike the terms nation, state, and county, which are geopolitical entities, region and area are defined by the users. We follow here the conventional treatment of the southern states as comprising a region known as the South, and consider white and nonwhite counties as areas within that region.

[2]Although we use "nonmetropolitan" and "rural" interchangeably in our discussion, we are actually using the definition of nonmetropolitan throughout our analysis. The use of nonmetropolitan, rather than rural, permits a statistical presentation of trends over comparable units (Zuiches and Brown, 1978).

[3]We are using the official Census definition of poverty in the analysis. This definition cannot capture any of the relative aspects of poverty.

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APPENDIX A

Zero-Order Correlation Coefficients Between Independent Variables (1973 and 1983).

1973

		(X1)	(X2)	(X3)	(X4)
(X1)	Percent of population white	---			
(X2)	Population	-.121	---		
(X3)	Number of manufacturing establishments	-.269	.716	---	
(X4)	Percent of high school graduates	.232	.062	-.076	---
(X5)	Percent of families in poverty	-.227	-.191	-.136	-.710

1983

(X1)	Percent of population white	---			
(X2)	Population	.081	---		
(X3)	Number of manufacturing establishments	.146	.810	---	
(X4)	Percent of high school graduates	.341	.101	-.026	---
(X5)	Percent of families in poverty	-.398	-.214	-.165	-.465

APPENDIX B

Zero-Order Correlation Coefficients Between Independent Variables.

		(X1)	(X2)	(X3)	(X4)	(X5)	(X6)	(X7)	(X8)
(X1)	Percent of population white (1973)	---							
(X2)	Proportionate change in population (1973-83)	.139	---						
(X3)	Population (1973)	-.121	-.002	---					
(X4)	Proportionate change in number of manufacturers (1973-83)	-.027	.029	.271	---				
(X5)	Number of manufacturers (1973)	-.269	.044	.717	-.060	---			
(X6)	Rate of family poverty (1973)	-.227	.237	-.191	-.122	-.136	---		
(X7)	Percent of high school graduates (1973)	.232	-.197	.062	-.046	-.076	-.710	---	
(X8)	Proportionate change in high school graduates (1973-83)	-.058	.334	-.048	.009	.010	.619	-.775	---
(X9)	Proportionate change in family poverty (1973-83)	.002	-.300	-.087	.010	-.049	-.352	.241	-.272

Table 1

Descriptive Statistics for Selected Variables

	Total N=149	White counties N=97	Nonwhite counties N=52	Zero-order correlation coefficient
Population (1983)				.081
$\bar{x}$	21,692	23,244	18,795	
S.D.	21,102	24,311	12,905	
Percent of high school graduates (1983)				.341***
$\bar{x}$	49	52	44	
S.D.	10	9	9	
Percent of jobs in manufacturing (1983)				.009
$\bar{x}$	21	20	23	
S.D.	14	16	11	
Number of manufacturing establishments (1983)				-.146*
$\bar{x}$	29	31	25	
S.D.	30	35	19	
Per capita income (1983)				.241***
$\bar{x}$	5,581	5,577	5,216	
S.D.	1,762	1,231	2,442	
Median family income (1983)				.421***
$\bar{x}$	13,725	14,650	12,000	
S.D.	3,377	3,231	2,963	
Percent of families below poverty level (1983)				-.398***
$\bar{x}$	17	15	21	
S.D.	8	7	8	
Percent of individuals below poverty level (1983)				-.419***
$\bar{x}$	20	18	24	
S.D.	18	6	8	

Table 1 (continued)

	Total N=149	White counties N=97	Nonwhite counties N=52	Zero-order correlation coefficient
Population (1973)				.089
$\bar{x}$	18,698	20,047	16,185	
S.D.	18,011	20,786	10,872	
Percent of high school graduates (1973)				.373***
$\bar{x}$	35	38	29	
S.D.	11	10	8	
Percent of jobs in manufacturing (1973)				.027
$\bar{x}$	22	21	23	
S.D.	16	18	11	
Number of manufacturing establishments (1973)				.114
$\bar{x}$	24	25	23	
S.D.	35	26	21	
Per capita income (1973)				.498***
$\bar{x}$	2,060	2,235	1,733	
S.D.	465	424	350	
Median family income (1973)				.426***
$\bar{x}$	6,308	6,679	5,616	
S.D.	1,582	1,384	1,706	
Percent of families below poverty level (1973)				-.576***
$\bar{x}$	25	20	33	
S.D.	11	8	11	
Percent of individuals below poverty level (1973)				-.543***
$\bar{x}$	28	24	37	
S.D.	12	9	13	

Note: Correlation coefficients are computed for each variable and the percentage of whites in the country. (This is also true for Tables 2 and 3.)
*p < .05, one-tailed test
**p < .01, one-tailed test
***p < .001, one-tailed test

Table 2

Absolute Changes in Selected Variables from 1973 to 1983

Absolute change in:	Total N=149	White counties N=97	Nonwhite counties N=52	Zero-order correlation coefficient
Population				.029
$\bar{x}$	2,993	3,197	2,611	
S.D.	4,070	4,486	3,154	
Percent of high school graduates				-.116
$\bar{x}$	14.39	13.72	15.64	
S.D.	5.54	4.77	6.62	
Percent of jobs in manufacturing				-.059
$\bar{x}$	-.95	-1.14	-.58	
S.D.	4.78	4.96	4.46	
Number of manufacturing establishments				.120
$\bar{x}$	4.85	6.24	2.27	
S.D.	13.63	14.64	11.19	
Per capita income				.121
$\bar{x}$	3,521	3,542	3,483	
S.D.	1,591	996	2,341	
Median family income				.328***
$\bar{x}$	7,418	7,972	6,383	
S.D.	2,283	2,349	1,750	
Percent of families below poverty level				.369***
$\bar{x}$	-7.97	-5.74	-12.12	
S.D.	8.59	7.67	8.73	
Percent of individuals below poverty level				.468***
$\bar{x}$	-8.26	-6.20	-12.10	
S.D.	7.14	6.13	7.38	

***$p < .001$, one-tailed test.

Table 3

Proportionate Changes in Selected Variables from 1973 to 1983

Proportionate change in:	Total N=149	White counties N=97	Nonwhite counties N=52	Zero-order correlation coefficient
Population				.080
$\bar{x}$	1.15	1.14	1.16	
S.D.	.17	.15	.21	
Percent of high school graduates				-.324***
$\bar{x}$	1.48	1.41	1.61	
S.D.	.27	.20	.32	
Percent of jobs in manufacturing				.087
$\bar{x}$	1.07	1.11	.98	
S.D.	.65	.77	.30	
Number of manufacturing establishments				.024
$\bar{x}$	1.30	1.35	1.20	
S.D.	1.53	1.85	.53	
Per capita income				-.171
$\bar{x}$	2.76	2.61	3.03	
S.D.	.77	.41	1.14	
Median family income				-.123
$\bar{x}$	2.21	2.21	2.20	
S.D.	.34	.34	.35	
Percent of families below poverty level				.146*
$\bar{x}$	.73	.77	.65	
S.D.	.31	.35	.18	
Percent of individuals below poverty level				.220**
$\bar{x}$	.74	.78	.68	
S.D.	.20	.21	.15	

*p < .05, one-tailed test
**p < .01, one-tailed test
***p < .001, one-tailed test

Table 4

Standardized and Unstandardized Partial Coefficients from Regression of Rate of Family Poverty (1973 and 1983) on Percent of Population that is White, Size of Population, and Number of Manufacturing Establishments, and Percent of High School Graduates

	1973		1983	
Percent of population white	-.124*	(-.080)	-.259***	(-.070)
Size of population	-.007	(-.000)	-.133	(-.001)
Number of manufacturing establishments	-.218**	(-.098)	-.029	(-.008)
Percent of high school graduates	-.679***	(-.731)	-.364***	(-.304)
F-ratio	44.815***		15.845***	
Adjusted R^2	.555		.306	

Note: Unstandardized coefficients are in parentheses.

*p < .05, one-tailed test.
**p < .01, one-tailed test.
***p < .001, one-tailed test.

Table 5

Standardized Partial Coefficients from Regression of Proportionate Change in Rate of Family Poverty (1973-1983) on Independent Variables

Percent of population white (1973)	-.055
Proportionate change in population (1973-83)	-.208*
Size of population (1973)	-.186
Proportionate change in number of manufacturing establishments (1973-83)	.020
Number of manufacturing establishments (1973)	.026
Rate of family poverty (1973)	-.365**
Percent of high school graduates (1973)	-.059
Proportionate change in high school graduates (1973-83)	-.035
F-ratio	4.405***
Adjusted R^2	.155

*p < .05, one-tailed test.
**p < .01, one-tailed test.
***p < .001, one-tailed test.